Dforce Mattress Tutorial

The dForce Matress set is already set up with dForce cloth simulation on the mattress, sheet, pillows and duvet. The items are saved as a set, or individually. Some items contain pre-draped morphs to give you a starting point.

In most cases where you are simulating an impact of a body or other object against the bed, you will need to use the Timeline Animation option on dForce simulation. This tutorial will show first a basic no animation draping simulation process, and then how to set up an animated timeline with a figure or figures.

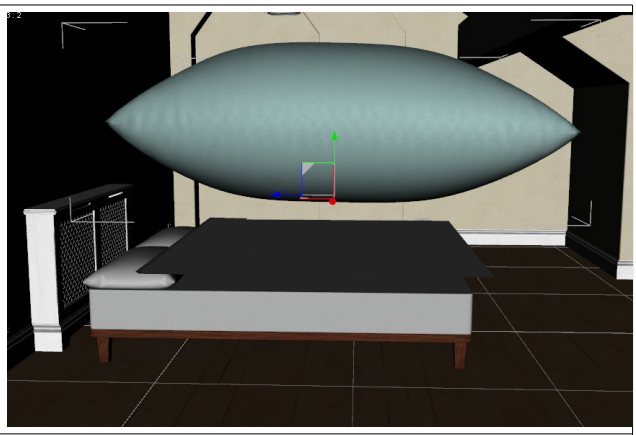
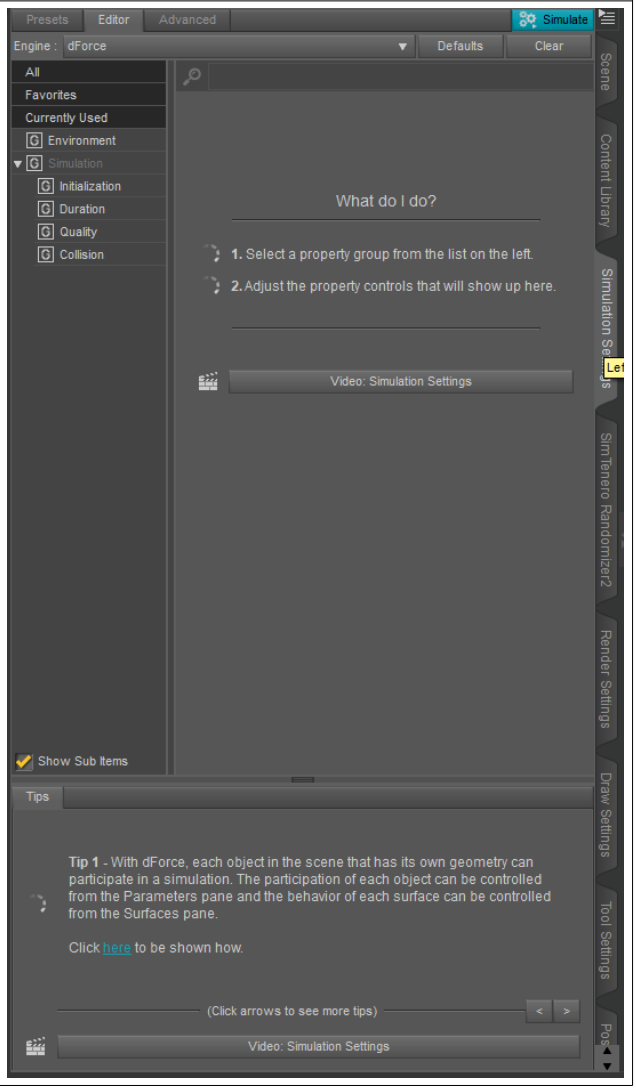
Why can't you set up a person and then run simulation as you often do for a standing pose? Well if the figure is supposed to end up on the bed, then the bed and figure will probably start clipping through each other which will make most dForce surfaces explode. This is bad.

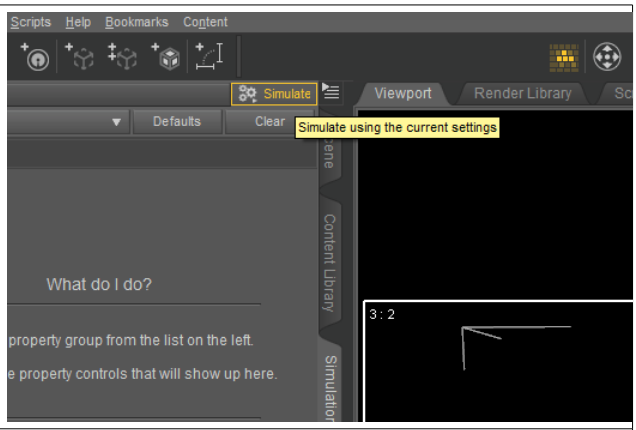
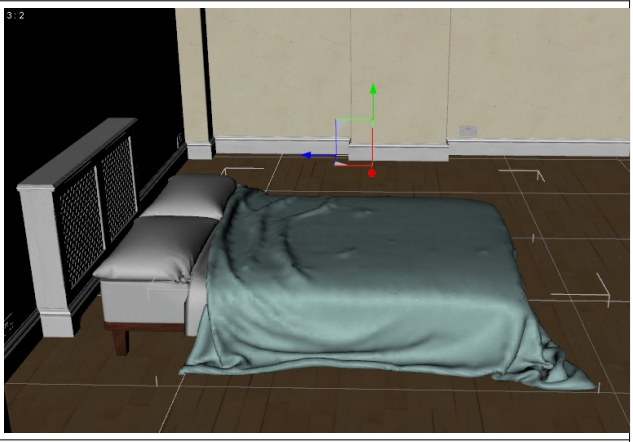
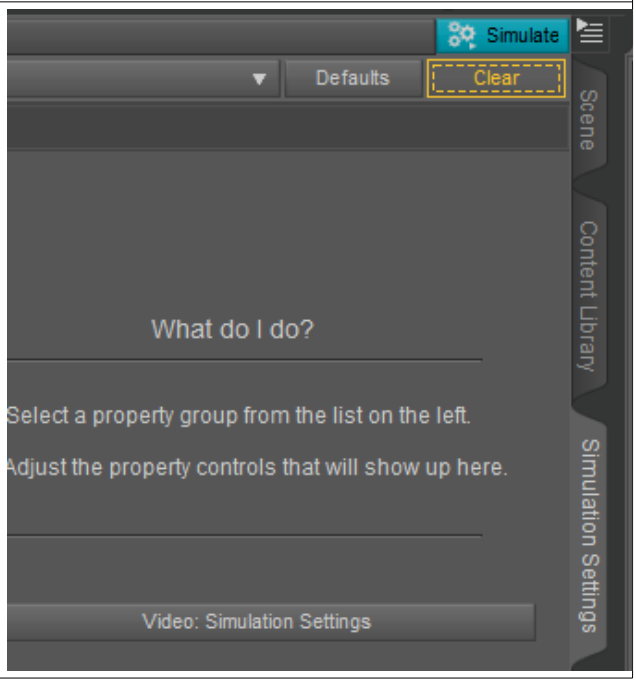
To avoid this clipping, usually the best approach is to start with the posed figure some way away from the dForce mattress and then use the animation timeline to press them down into place, which gives the sheets and mattress time so squish underneath the figure in a realistic fashion.

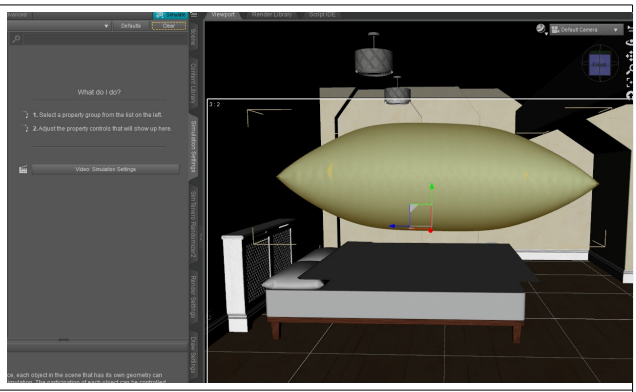
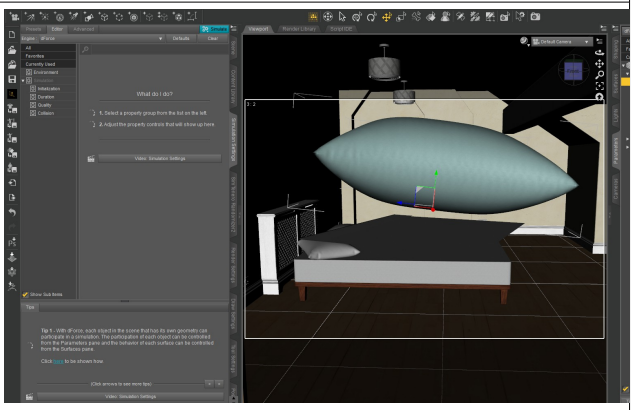
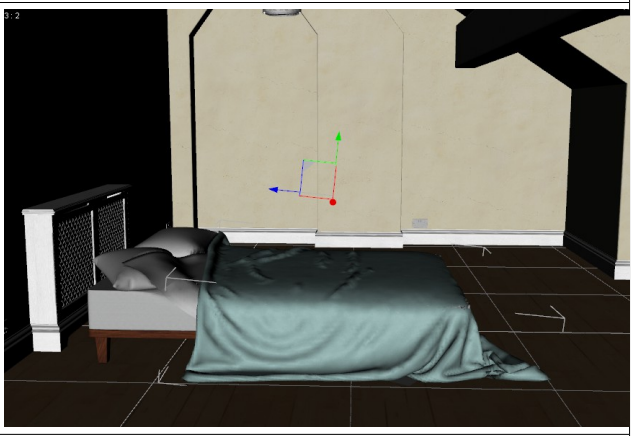
Default Draping Simulation with the dForce Mattress

For best results, make sure you have some sort of ground or floor under the bed for the draping duvet to have something to collide against.

Also make sure you figure does not poke into any dForce item at your start keyframe of animation, or it will explode or do odd things.

1. Load the items into your scene Here I have used (modern attic bedroom) and loaded my bed set. As you can see the sheet loads some distance from the bed, and the duvet is inflated and hovering well above the bed.	
2. Open the simulation settings tab	

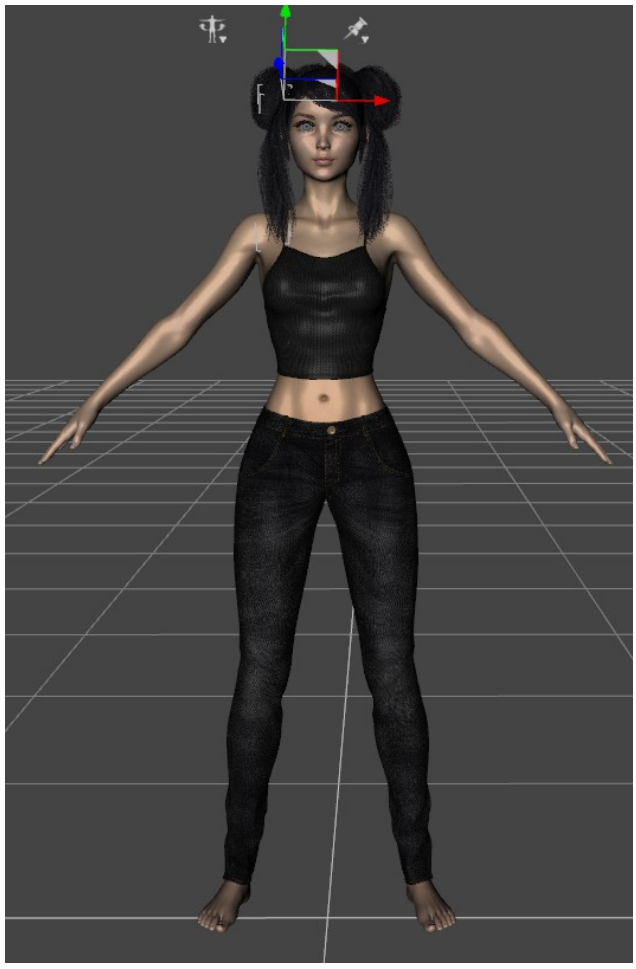
3. Press 'simulate'. Wait. 4.	
5. After some time – anything from a minute to an hour on very old machines, the cloth items will slowly drop down and drape themselves	
6. If you do not like this drape press Clear button	

7. And everything resets to before the simulation.	
8. Here I have moved a pillow and turned the sheet and duvet a little.	
9. Press simulate again and see how the cloth falls this time.	
10. Now select each item and and in the Parameters Tab under Simulation choose 'freeze simulation' this will make sure everything stays put if you use any other simulation in this scene.	

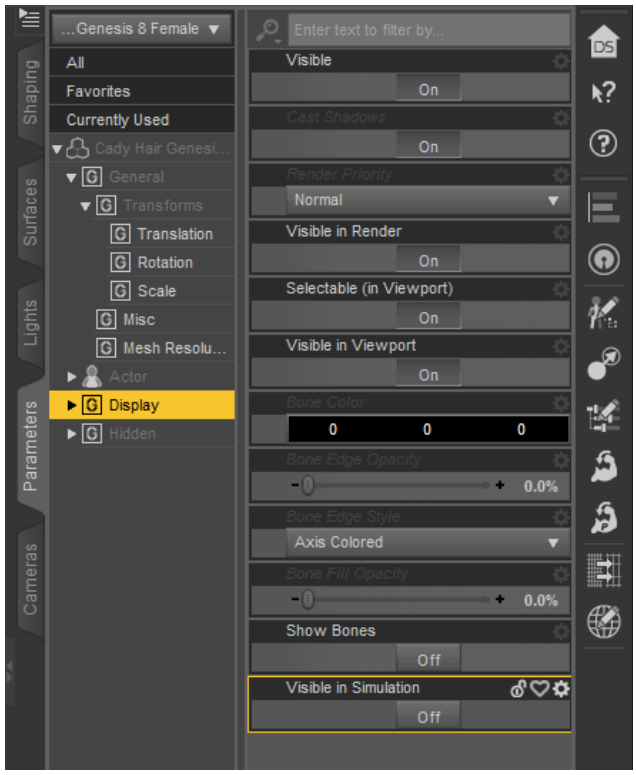
After a simulation you can turn Smoothing back on in the Parameters tab if there are any awkward crinkles.

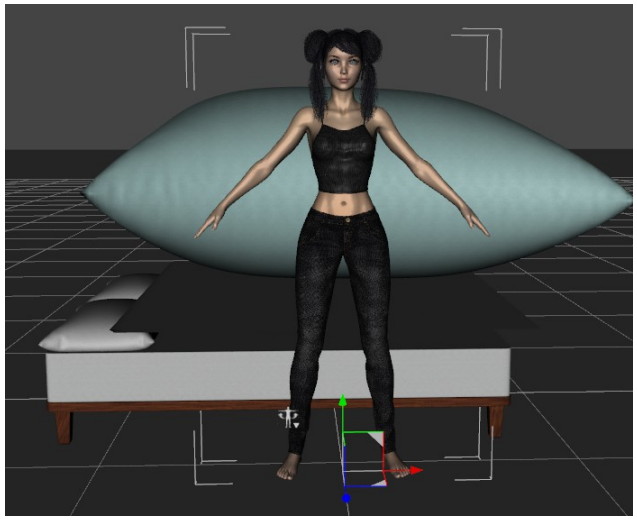
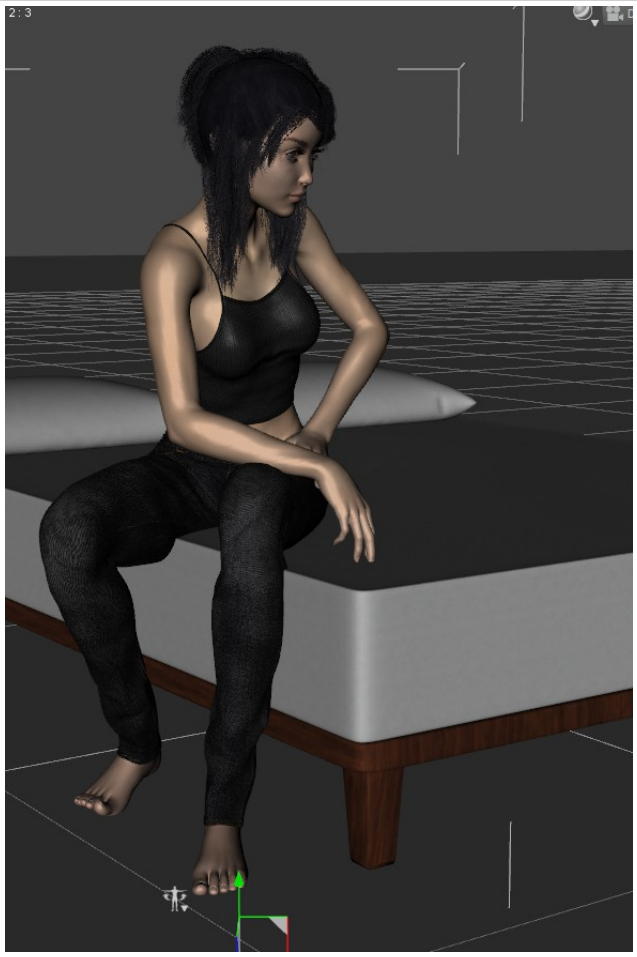
Setting Up An Animated Timeline With the dForce Mattress

1. First set up your figure – shape, clothing, hair. The works.

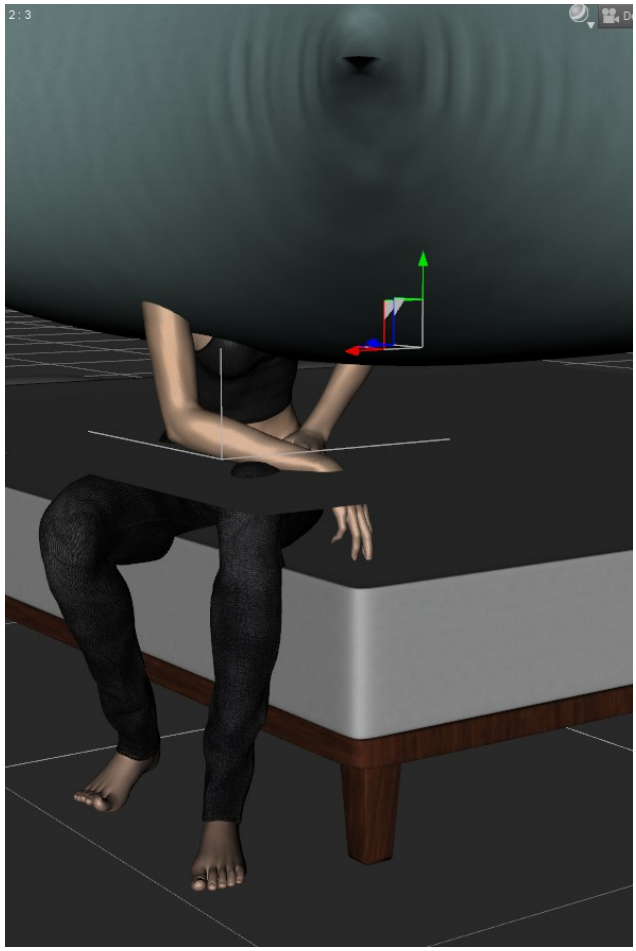


2. To avoid some explosions, select the hair, go to Parameters Tab in the Simulation section and turn 'Visible in Simulation' OFF. This makes the hair invisible to the simulation so it won't catch on fabrics and make a mess



3. I am going to use a simple primitive plane under the bed, but you can use any ground plane or floor. Load your floor and the bed.	
4. For setup, I find it helpful to turn the sheet and duvet invisible. Then pose you figure on the bed however you like, as it will look in your final image	

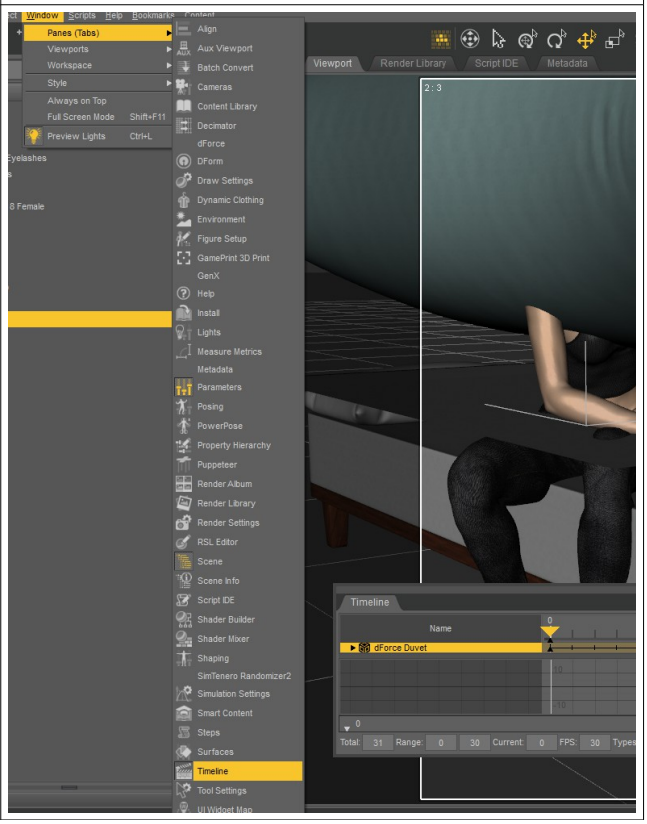
5. Now turn your sheet and duvet back on. If you have moved the bed and props around at all from where they loaded in, make sure to select all the bed props and use Figure: Memorise so that DS will record this as their starting position, or things will start flying aorund when you start an animation.



6. If you do not have your timeline visible (in default DS it is on the bottom of your screen) you can go to Window, panes and Timeline near the bottom And open it.

   Here is the basic principle. The scene defaults to having 30 frames. Right now you should be at 0, right at the start of the timeline.

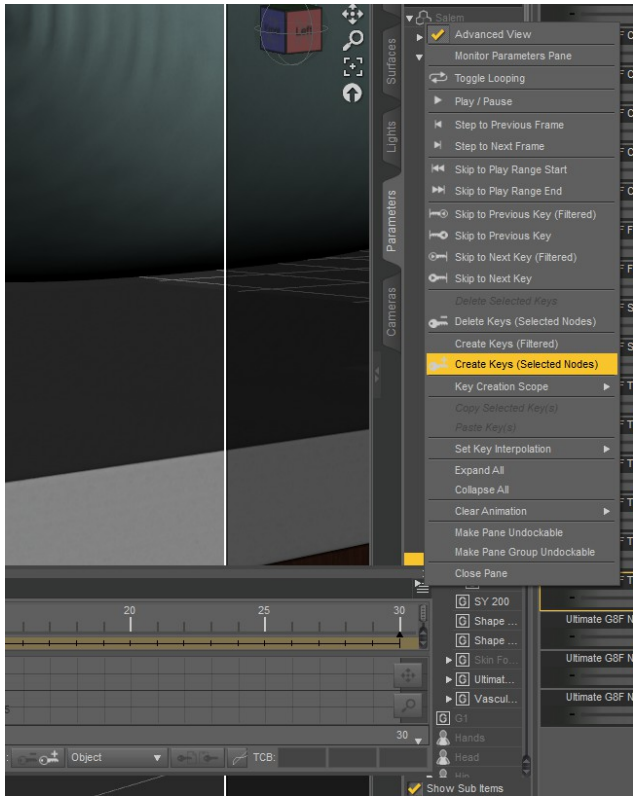
   We want to tell it to start the animation with all the pieces floating, and finish it with the figure sitting on the bed.



7. So with your person selected use the icon of three lines in the corner and choose 'create key from selected node' a key is a keyframe, a snapshot of how your node (that means figure) is right now both pose and location.

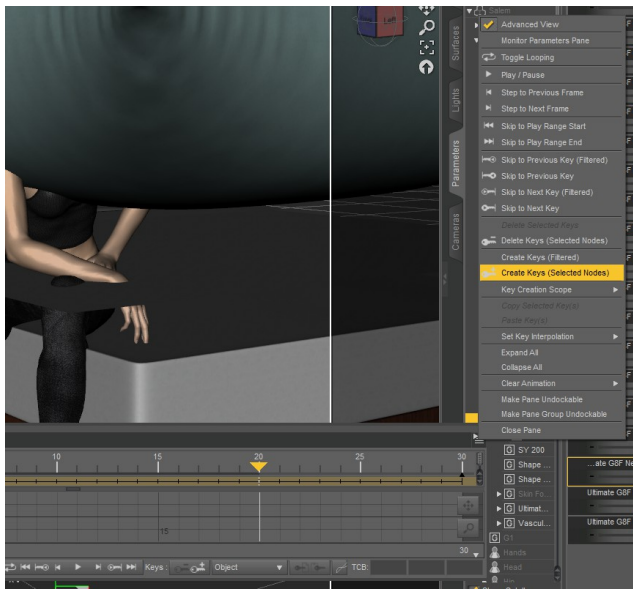
   Then when you make another keyframe later on, the animation engine will 'tween' them and slowly transition the figure and its parts from the original key to the second key.

   This could be going from a sitting to standing pose for regular animations, or like for this case, simply moving a static figure down onto a bed to squish the matress.

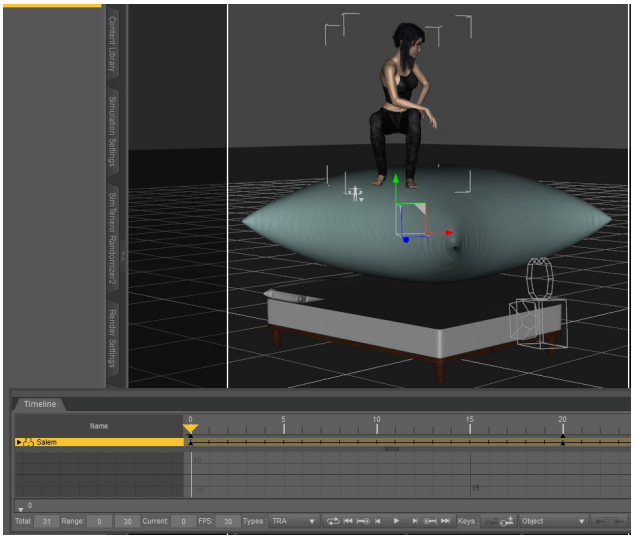


8. Now slide the arrow along to frame 20 and make another keyframe. If you slide the arrow back and forth along the thing, nothing should happen.

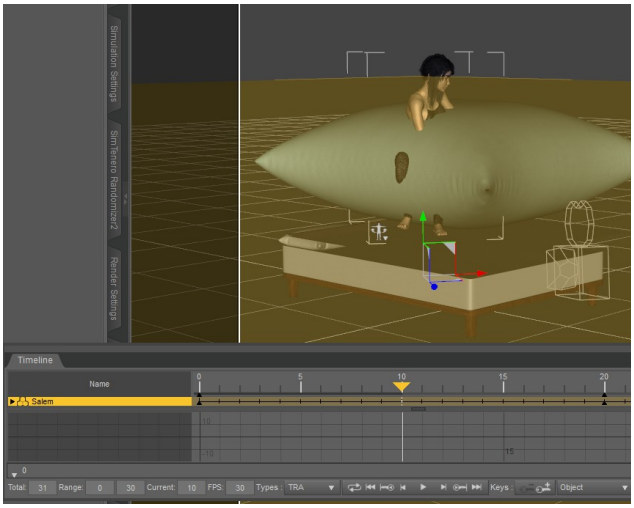
   We use 20 so the simulation can have the last 10 frames to let everything settle.



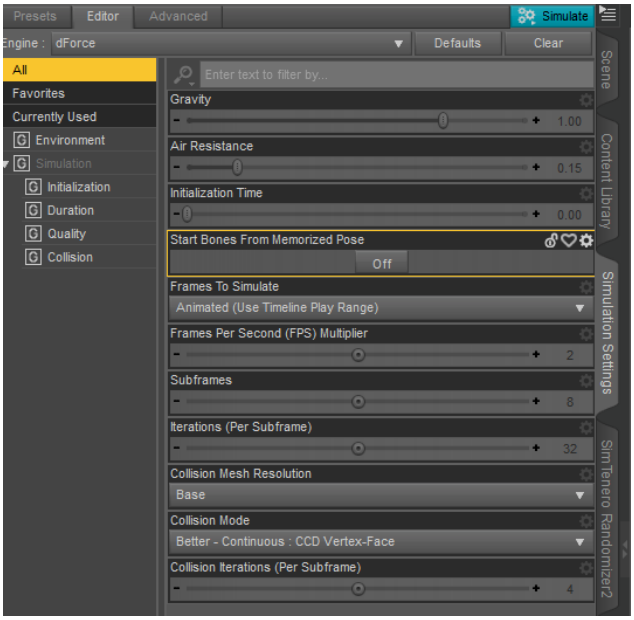
9. Now slide it back to 0. Select your figure and move them up above the props.



10. Now slides the arrow along to 20 again. You should see the figure move down to the original position you had set in that keyframe. The idea is that the figure will push down on the dForce cloth items as it moves to its final position.



11. Ok now one small but VERY important change. If you go to Simulation settings switch 'start bones form memorised pose' to OFF and turn Frame to Simulate to 'Animated (use timeline play range)'



12. Now push the Simulate button.
    And wait. You will see things slowly start to move into place, with the cloth draping and the figure pressing down into the bedding and mattress.
    With an older or slower machine this may take a little while. You may want to switch to wireframe or untextured mode to simulate to make it easier on your machine.